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10/563,621	04/17/2006	Hiroshi Ono	KOD189B.001APC	1727

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EXAMINER

FORTUNA, JOSE A

ART UNIT	PAPER NUMBER
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1791

NOTIFICATION DATE	DELIVERY MODE
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06/19/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/563,621	Applicant(s) ONO ET AL.	
	Examiner José A. Fortuna	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 12 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 12 and 16-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite since it is unclear to what the aluminum sulfate is added to, i.e., to the papermaking pulp or to the sizing agent.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 12 and 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koji et al., JP-11-323774 (Machine translation used) or Yuji et al., JP-2000-064193, (Machine Translation) or Noriaki, JP 06-240598, (Machine translation), as evidenced by Irene Brückle in “The Role of Alum in Historical Papermaking.”

Noriaki, Yuji et al. and Koji et al. teach a paper which is sized with a cationic compound, which could be a starch, a PVA or a polyacrylamide meeting the requirements the compound A of the current application and a copolymer formed by monomers, which conforms the components B of the current application.

Koji et al. teach a sizing agent comprising a cationized starch and a hydrophobic polymer comprised/formed of monomers including styrene, monomers having tertiary amino group and optionally other polymer with quaternizing agent, see abstract. In paragraphs [0004] through paragraph [0008] of the detailed description of the invention, Koji et al. teach a composition including the starch as component A and a polymer obtained by the copolymerization of styrene or styrene derivative, (α -methylstyrene and chlorostyrene are specifically mentioned on ¶-[0006]), and a vinyl monomer containing a tertiary or quaternary ammonium group, which reads in the copolymerization of (a) and (b) of the claim 1, and they also teach that the copolymer can be copolymerized with a acrylic

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acid/ester derivatives, e.g. meta- acrylate, etc, which reads on (a)-(b)-(c), and can be quaternized with the same quaternizing agents as recited in the current independent claims, e.g., epichlorohydrin, methyl chloride, benzyl chloride, etc., see ¶-[0007], which reads on (d).

Noriaki teaches a sizing agent for making paper, including newsprint, containing a component an aqueous solution or dispersion of a copolymer of a vinyl monomer, (same as component (b), see ¶-[0011] of detailed description), and α, β -ethylenic monomer, which could be styrene and derivatives, see ¶-[0012] of the detailed description, which reads on the component (B) of the claims. Noriaki teaches also that polyvinyl alcohol can be used as a protective colloid for the polymers emulsion, ¶-[0017], which reads on component (A) of the claims.

Yuji et al. teach a newsprint paper for offset printing which is surface size or coated with a composition containing a cationic starch, (reads on component (A) of the claims), and polystyrene particles, see abstract. Yuji et al. teach that the polystyrene particles are formed by the copolymerization of styrene or styrene derivative, (monomer (a) of component (B), and styrene, methylstyrene and chlorostyrene are specifically mentioned on ¶-[0020] of the detailed description), with a cationic monomer containing quaternary ammonium, see ¶-[0021], which reads on the copolymerization of (a)-(b) or (a)-(d).

As to the use of alum, aluminum sulfate, the use of such compound is well known in the art and therefore, its use would have been obvious to one of ordinary skill in the art, as evidenced by Brückle.

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As the afore mentioned claims are product by process claims, it is deemed that "[A]ny difference imparted by the product by process claims would have been obvious to one having ordinary skill in the art at the time the invention was made because where the examiner has found a substantially similar product as in the applied prior art the burden of proof is shifted to the applicants to establish that their product is patentably distinct, ..." In re Brown, 173 U.S.P.Q. 685, and In re Fessmann, 180 U.S.P.Q. 324.

Further, "[P]rocess limitations are significant only to the extent that they distinguish the claimed product over the prior art product." In re Luck, 177 U.S.P.Q. 523 (1973).

In the event any differences can be shown for the product -by-process claims 1, 12 and 16-23 as opposed to the product taught by the reference Noriaki, Yuji et al. and Koji et al. such differences would have been obvious to one of ordinary skill in the art as routine modification of the product in the absence of a showing unexpected results, see In re Thorpe, 227 USPQ 964 (CAFC 1985).

The cited references are silent with regard to the degree of cationization of the surface sizing agent, nor the average particle size of the emulsion. However, optimizing the degree of cationization and the particle size of an emulsion is within the levels of ordinary skill in the art and obvious absent a showing of unexpected results. It has been held that "[T]he discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. *In re Antoine*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); *In re Aller*, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1995). Also, it has been held that it is obvious to try, choosing from a finite number of identified, predictable solutions with a reasonable expectation of success. See recent Board decision

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Ex parte Smith, --USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007)

(Citing KSR, 82 USPQ2d at 1396).

Response to Arguments

7. Applicant's arguments with respect to claims 1, 12, 16-23 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's arguments filed on April 10, 2009 have been fully considered but they are not persuasive. The arguments are not persuasive, because they are narrower than the claims. The remarks show a table showing unexpected results and while that might be true, those unexpected results are for specific ratio of the components and the claims are not limited by any amounts.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A. Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/José A Fortuna/
Primary Examiner
Art Unit 1791

JAF